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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,589

02/06/2006

Hiroaki Tamai

FUJZ22.365(100794-01037)

2485

26304 7590 03/02/2010
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EXAMINER

BELANI, KISHIN G

ART UNIT

PAPER NUMBER

2443

MAIL DATE

DELIVERY MODE

03/02/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/567,589	Applicant(s) TAMAI, HIROAKI	
	Examiner KISHIN G. BELANI	Art Unit 2443	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,7-9 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,7-9 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to Applicant's amendment filed on 12/30/2009.

Independent claims 1 and 8 have been amended. Claims 4-6 and 11-13 have been cancelled. Claims 1-2, 7-9, and 14 are now pending in the present application. The applicant's amendments to claims are shown in ***bold and italics*** and the examiner's response to claim amendments is shown in **bold** in this office action. **This Action is made FINAL.**

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 7-9, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by **Wakayama et al. (U.S. Patent Application Publication # 2004/0136368 A1).**

Consider **claim 1**, Wakayama et al. show and disclose a statistical information extraction method (abstract which discloses a method using a packet transfer apparatus

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with a statistics information collecting processor and a line card that transfers header information of packets to the statistics information collecting processor; further disclosing that on the basis of the statistics information collected, the setting of the search table to be provided for the line card will be renewed; Figs. 1-2 show and paragraphs 0053 and 0057 further describe the claimed method in detail), comprising: a first step of setting a table for retrieving a pattern to which a user policy is reflected (Table 117 shown in Fig. 3 that contains entries with specific source and destination IP addresses set as search key to retrieve a matching source and destination address pattern from the transmitted packets; the search key being based on a user policy of assigning specific packets (i.e. packets received from specific sources and directed to designated destinations only) to designated line cards (for collecting statistical information) as shown in Figs. 3 and 5; paragraphs 0053, 0061 and 0070 recite the same details, thereby disclosing setting a table for retrieving a pattern to which a user policy is reflected);

a second step of retrieving the pattern from received packets based on the table (Fig. 2 that shows and paragraph 0057 which discloses a received packet buffer 114, a packet processing engine 116, a header buffer 120, and a search table 117 in which the packet processing engine stores packet header information as well as information concerning correspondence relationship of processing of the packet, and memory 122 to store the search table 117, thus disclosing retrieving the pattern from received packets based on the table); and

a third step of storing statistic information of the pattern retrieved (Fig. 4, that shows a

Header Information Analyzer 152, an Adder 153 for counting the number of packets processed, and a Statistics Table 154 for storing statistics information obtained by counting by the adder; paragraph 0062 discloses the same details); wherein the first step sets in the table a packet type and a pattern extraction position within a header of a received packet corresponding to ***the packet type and*** a retrieval pattern corresponding to the pattern extraction position (Fig. 10, step 5020, that shows a packet header being extracted and stored in a header buffer; Fig. 8 shows the table containing stored header information; Figs. 12-13 which show the layout of the fields that make up the Ethernet Header and the IP Header extracted and stored in the header buffer, specifically a 2-byte Frame Type (packet type) field 603 at offset 12 from the beginning of the Ethernet header in Fig. 12, and a 1-byte Protocol field at offset 9 from the beginning of the IP header, as shown in Fig. 13; the layout of fields (for example 4-byte key fields Source IP Address and Destination IP Address at offsets 12 and 16 respectively from the beginning of the IP header) as shown in Fig. 13, showing pattern extraction positions (12 from the Ethernet header; and 9, 12, and 16 from the IP header) and field lengths (2 for frame type, 1, 4, and 4 for Protocol, Source and Destination IP addresses) within a received packet header corresponding to the search parameters (Source and Destination IP addresses shown in Fig. 3); **as noted in paragraph 0057 above, the packet processing engine 116 stores header information of the packet in the search table 117; the packet header information includes Ethernet header fields 601-603 (field 603 being packet type) shown in Fig. 12 and IP header 610 fields (including protocol, source IP address, and destination IP address) shown**

in Fig. 13; the packet type field is being checked for a hexadecimal value of '0800'x that represents Ethernet packet types in IPV4 format (see paragraphs 0078-0079); for additional information on this field, please do a Google search "RFC Ethernet header") and review RFC 894 and 826; furthermore, since the layout of the fields in the Ethernet headers is defined by the applicable RFCs, the pattern extraction positions (of protocol and source and destination addresses) are fixed and need not be stored in the table);

the second step determines that the pattern has been retrieved when the pattern of the received packet is retrieved based on the pattern extraction position ***corresponding to the packet type of the received packet*** and the retrieved pattern is matched with the retrieval pattern set in the table (Fig. 11, step 5230 which shows that the pattern of search key (shown in Fig. 3) has been extracted from the packet header based on the pattern extraction position (shown in IP header 610 in Fig. 13); step 5240 which judges flow by matching the retrieved pattern with the retrieval pattern set in the search table (shown in Fig. 3); paragraphs 0084-0085 disclose the same details); ***and***

the third step stores the statistic information of the pattern received, when the second step determines that the pattern has been retrieved (Fig. 24 that shows and paragraphs 0069 and 0094 that disclose the details of saving the statistics information of the packets with the search pattern of specified source and destination IP addresses, after the header information of the packets has been analyzed and statistics gathered).

Consider **claim 2**, and **as applied to claim 1 above**, Wakayama et al. disclose the claimed statistical information extraction method, wherein the first step sets in the table whether or not the received packet should be made a learning object (Fig. 10; paragraph 0073 which discloses that the packet processing engine 116 holds a packet counter for adding a number of packets processed by the packet processing engine 116; further disclosing that the packet processing engine increases a value P_n of the packet counter by 1, then judges whether or not the value P_n matches a predetermined integer value N (N greater than 2); if the value P_n of the packet counter is equal to N , the frame for header transfer 35 shown in Fig. 4 will be generated to transfer to the statistics information collecting processor 15, and the value P_n of the packet counter will be reset, thereby disclosing that every N^{th} packet is to be made a learning object), and the second step adds to the table a pattern unable to be retrieved if the received packet is set as the learning object in the table when the pattern is unable to be retrieved (Fig. 10; paragraph 0073 further discloses extracting packet header information and storing it in the header buffer in step 5020, if it is every N^{th} packet, which is selected as the learning object; since such selected packet is not previously stored in the table, the pattern is unable to be retrieved during the table search).

Consider **claim 7**, and **as applied to claim 1 above**, Wakayama et al. disclose the claimed statistical information extraction method, wherein the third step counts the retrieved pattern, and makes the count the statistic information (Fig. 4; paragraph 0062 which disclose the details of a Statistics Information Collecting Processor that includes

an adder 153 to count number of packets retrieved, and stores the statistics information in the statistics table 154).

Consider **claim 8**, Wakayama et al. show and disclose a statistical information extraction device (abstract which discloses a packet transfer apparatus with a statistics information collecting processor and a line card that transfers header information of packets to the statistics information collecting processor; further disclosing that on the basis of the statistics information collected, the setting of the search table to be provided for the line card will be renewed; Figs. 1-2 and paragraphs 0053 and 0057 further describe the claimed device in detail), comprising:

a first means setting a table for retrieving a pattern to which a user policy is reflected (Table 117 shown in Fig. 3 that contains entries with specific source and destination IP addresses used as search key to retrieve a pattern from the transmitted packets; the search key being based on a user policy of assigning specific packets to designated line cards as shown in Fig. 3; paragraph 0061 discloses the corresponding details, thereby disclosing setting a table for retrieving a pattern to which a user policy is reflected);

a second means retrieving the pattern from received packets based on the table (Fig. 2 that shows and paragraph 0057 which discloses a received packet buffer 114, a packet processing engine 116, a header buffer 120, and a search table 117 in which the packet processing engine stores packet header information as well as information concerning correspondence relationship of processing of the packet, and memory 122 to store the

search table 117, thus disclosing retrieving the pattern from received packets based on the table); and

a third means storing statistic information of the pattern retrieved (Fig. 4, that shows a Header Information Analyzer 152, an Adder 153 for counting the number of packets processed, and a Statistics Table 154 for storing statistics information obtained by counting by the adder; paragraph 0062 discloses the same details);

wherein the first means sets in the table a packet type and a pattern extraction position within a header of a received packet corresponding to **the packet type and** a retrieval pattern corresponding to the pattern extraction position (Fig. 10, step 5020, that shows a packet header being extracted and stored in a header buffer; Fig. 8 shows the table containing stored header information; Figs. 12-13 which show the layout of the fields that make up the Ethernet Header and the IP Header extracted and stored in the header buffer, specifically a 2-byte Frame Type (packet type) field 603 at offset 12 from the beginning of the Ethernet header in Fig. 12, and a 1-byte Protocol field at offset 9 from the beginning of the IP header, as shown in Fig. 13; the layout of fields (for example 4-byte key fields Source IP Address and Destination IP Address at offsets 12 and 16 respectively from the beginning of the IP header) as shown in Fig. 13, showing pattern extraction positions (12 from the Ethernet header; and 9, 12, and 16 from the IP header) and field lengths (2 for frame type, 1, 4, and 4 for Protocol, Source and Destination IP addresses) within a received packet header corresponding to the search parameters (Source and Destination IP addresses shown in Fig. 3); **as noted in paragraph 0057 above, the packet processing engine 116 stores header information of the packet**

in the search table 117; the packet header information includes Ethernet header fields 601-603 (field 603 being packet type) shown in Fig. 12 and IP header 610 fields (including protocol, source IP address, and destination IP address) shown in Fig. 13; the packet type field is being checked for a hexadecimal value of '0800'x that represents Ethernet packet types in IPV4 format (see paragraphs 0078-0079); for additional information on this field, please do a Google search "RFC Ethernet header") and review RFC 894 and 826; furthermore, since the layout of the fields in the Ethernet headers is defined by the applicable RFCs, the pattern extraction positions (of protocol and source and destination addresses) are fixed and need not be stored in the table);

the second means that the pattern has been retrieved when the pattern of the received packet is retrieved based on the pattern extraction position *corresponding to the packet type of the received packet* and the retrieved pattern is matched with the retrieval pattern set in the table (Fig. 11, step 5230 which shows that the pattern of search key (shown in Fig. 3) has been extracted from the packet header based on the pattern extraction position (shown in IP header 610 in Fig. 13); step 5240 which judges flow by matching the retrieved pattern with the retrieval pattern set in the search table (shown in Fig. 3); paragraphs 0084-0085 disclose the same details); **and** *the third means stores the statistic information of the pattern received, when the second means determines that the pattern has been retrieved* (Fig. 24 that shows and paragraphs 0069 and 0094 that disclose the details of saving the statistics information of the packets with the search pattern of specified source and

destination IP addresses, after the header information of the packets has been analyzed and statistics gathered).

Consider **claim 9**, and **as applied to claim 8 above**, Wakayama et al. disclose the claimed statistical information extraction device, wherein the first means sets in the table whether or not the received packet should be made a learning object (Fig. 10; paragraph 0073 which discloses that the packet processing engine 116 holds a packet counter for adding a number of packets processed by the packet processing engine 116; further disclosing that the packet processing engine increases a value P_n of the packet counter by 1, then judges whether or not the value P_n matches a predetermined integer value N (N greater than 2); if the value P_n of the packet counter is equal to N , the frame for header transfer 35 shown in Fig. 4 will be generated to transfer to the statistics information collecting processor 15, and the value P_n of the packet counter will be reset, thereby disclosing that every N^{th} packet is to be made a learning object), and the second means adds to the table a pattern unable to be retrieved if the received packet is set as the learning object in the table when the pattern is unable to be retrieved (Fig. 10; paragraph 0073 further discloses extracting packet header information and storing it in the header buffer in step 5020, if it is every N^{th} packet, which is selected as the learning object; since such selected packet is not previously stored in the table, the pattern is unable to be retrieved during the table search).

Consider **claim 14**, and **as applied to claim 8 above**, Wakayama et al. disclose the claimed statistical information extraction device, wherein the third means counts the retrieved pattern, and makes the count the statistic information (Fig. 4; paragraph 0062 which disclose the details of a Statistics Information Collecting Processor that includes an adder 153 to count number of packets retrieved, and stores the statistics information in the statistics table 154).

Response to Arguments

Applicant's arguments filed 12/30/2009 have been fully considered but they are not persuasive. After carefully considering the arguments presented and reviewing the cited prior art used in rejecting the claims, the examiner has concluded that Wakayama et al. do adequately teach each and every claim element of the amended claims, which are therefore obvious and non-novel over the prior art. The claims are therefore not-allowable in their present form.

Consider **independent claim 1**. On page 5 of the "Remarks" section, the applicant has argued that Wakayama fails to disclose a "packet type" itself in Figs. 3 and 5, and further fails to disclose "extracting a pattern from a pattern extraction position corresponding to the packet type". The examiner respectfully disagrees with this argument. First, packet types can be classified many different ways: packets belonging to a particular flow (i.e. packets that have the same source and destination addresses) may be classified as packets of one type; packets using the same protocol may be classified as packets of another type; and packets with a particular value in their type

field (in the Ethernet header) may be classified as packets of yet another type. The cited reference of Wakayama shows and describes packets having all these characteristics (for example, see paragraphs 0012-0013, 0070, 0077-0080). Whether or not a "packet type" field is specifically shown in Figs. 3 and 5 is of no consequence, because Wakayama et al. explicitly states (in paragraph 0057 that the extracted packet header information (including packet type 603) is saved in Table 117 of Fig. 3).

The applicant further argues that "the examiner deems that there must exist a table describing a packet type, since the Ethernet header 600 in Fig. 12 shows 'type 603' including some preset value". To clarify the misstatement, there no type 603. In reality, 603 is the ID of the field "type", that when set to hexadecimal "0800"x, indicates that the packet is Ethernet IPV4 type. Other values (such as "08100"x represents a VLAN tag type packet) represent other types of packets. For additional information, please do a Google search "RFC Ethernet Header", and review RFC 894 and 826.

The details of IP header fields can also be read at the web site:

<http://www.networksorcery.com/enp/protocol/ip.htm>

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kishin G. Belani whose telephone number is (571) 270-1768. The Examiner can normally be reached on Monday-Friday from 6:00 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tonia Dollinger can be reached on (571) 272-4170. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

/K. G. B./
Examiner, Art Unit 2443

February 22, 2010

/George C Neurauter, Jr./
Primary Examiner, Art Unit 2443